



State of New Hampshire  
DEPARTMENT OF ENVIRONMENTAL SERVICES

6 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095  
(603) 271-3406 FAX (603) 271-7894



August 2, 2001  
**Letter of Deficiency**  
DAM #084.02

Chief Robert Crowell  
Meadowood County Area Fire Department  
P.O. Box 599  
Fitzwilliam, NH 03447

RE: Bowker Pond Dam, Fitzwilliam

Dear Chief Crowell

The Department of Environmental Services, Dam Bureau (DES) consistently strives to enhance the safety of dams in New Hampshire through its dam safety program. One of the many instruments that plays a part in reaching this goal is our inspection program. DES is forwarding this correspondence to you to advise you that in accordance with RSA 482:12 and Env-Wr 502.02, an inspection of the subject dam was conducted on May 16, 2001 and June 4, 2001.

Additionally, upon a downstream examination and file review of the Bowker Pond Dam (#0842.02) the classification of this dam has changed from a low-hazard dam (A) to a significant-hazard dam (B). This change in hazard classification resulted from a breach analysis that indicated that Route 119 would likely be overtopped for approximately a 2-hour period and two associated dwellings at the Route 119 crossing would likely be affected by the flooding. As a result of this change in hazard classification there will be an additional annual fee associated with this change. A low-hazard dam is assessed a yearly dam registration fee of \$100.00 and a significant-hazard dam is assessed a yearly dam registration fee of \$300.00. Inspection of a significant-hazard dam is conducted every 4 years.

During the visual inspection and/or file review, the following deficiencies were observed

There was seepage/leaking observed at the base of the primary spillway on May 16, 2001. The owners reported the seepage on a previous date. At the time of this inspection the water level was well below the top of the primary spillway, which led to the discovery of the seepage. Seepage was not observed in any other location on this date.

Additional seepage was observed along the downstream right earth-training wall of the channel below the stoplog bay on June 4, 2001. This seepage was not witnessed on May 16, 2001 possibly due to the low water elevation at the time. It should be noted that the water level was at the normal pool elevation on June 4, 2001 and the seepage below the primary spillway could not be observed as water was spilling over the primary spillway;

- 2 The brush along the right upstream face of the dam had recently been cut but will remain as a continual maintenance issue;
- 3 Replacement riprap had recently been placed along the left and right upstream embankment on either side of the primary spillway and within the primary spillway outlet channel;
- 4 Cracks were observed along both the left and right upstream concrete approach channel walls;

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5. Cracks were observed in the downstream concrete wall both on the left and right side of the stoplog bay. It should be noted that the concrete work along the dam was completely redone in 1995;
6. There was no operational procedure plan on file with the DES; and
7. Due to the change in classification the Emergency Action Plan (EAP) is now due. In determining the classification of this dam DES has developed a partial inundation area.

DES believes that the above deficiencies can be corrected by performing the following items by November 1, 2001:

Develop a plan to repair the seepage downstream of the primary spillway and downstream of the stoplog bay as indicated above. If repairs are not implemented this fall, construct weirs to measure the seepage in both locations until final repairs can be made. A drawdown of a few inches to eliminate flow over the primary spillway may be necessary to measure seepage downstream of the primary spillway. Measurements should be recorded on a regular basis and should include the date and time of reading, pool level, and quantity of flow. Additionally, seepage measurements should be recorded both before and after construction to determine the success of the repairs;

2. Prepare and submit to the Dam Safety Section a written operational procedure plan. The plan should describe the control of impoundment levels, monitoring and maintenance procedures, and identify emergency contact personnel;
3. As part of your operation procedure plan add a segment to monitor the cracks in the concrete in the areas as listed above and develop a plan to repair the cracks as necessary;
4. Continually maintain the brush along the upstream right embankment and make reference to this maintenance as part of the operational procedure plan; and
5. Supply a draft Emergency Action Plan (EAP) to be reviewed by our office. Any correspondence in reference to the EAP may be directed to Bethann McCarthy, P.E. Engineer in charge of the EAP program.

DES is requesting that you complete and submit the attached "Intent to Complete Repairs" form, within 30 days of receipt of this letter, that will provide for correction of the identified deficiencies by the date(s) indicated above. If you believe changes to the items of work or dates are necessary, please make the changes directly on the form and provide a brief explanation. We have enclosed a self addressed stamped envelope for you to return this form.

Our intent in sending you this correspondence is to make you aware of items that DES believes warrant your attention to insure the continued safe operation of your dam. It is our hope that, through the

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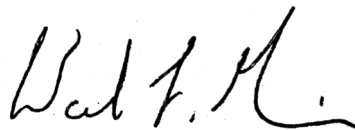
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submittal of the attached form and a commitment to keeping a well-maintained dam, you will voluntarily comply with the requested items of work. If we do not receive the intent form or a similarly adequate written reply, we will assume that you are in agreement with our findings and recommendations and DES will carry out follow-up inspections accordingly.

If you have any questions or comments regarding this Letter of Deficiency or would like to be present at future inspections, please contact me at 271-3406, or write to the Water Division at the address listed on the top of the previous page.

Sincerely,



Dale F. Guinn, P.E.  
Dam Safety Engineer

Attachments Guideline for an O&M plan, DB8, DB13

cc: Gretchen Rule

Town of Fitzwilliam

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